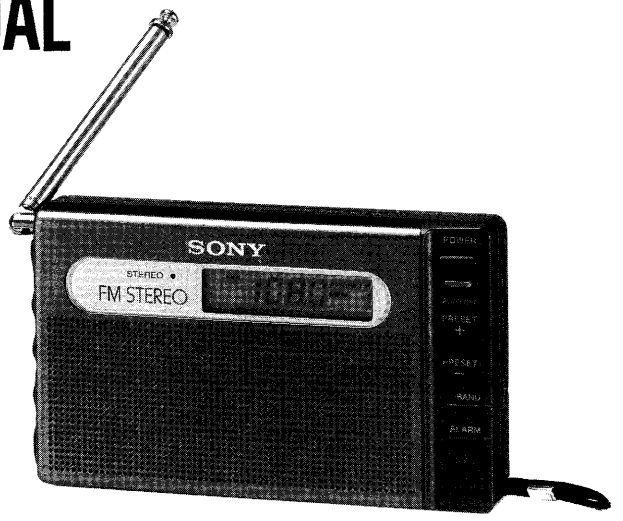
SRF-M100

SERVICE MANUAL

AEP Model



SPECIFICATIONS

Frequency range

Frequency	Channel step
FM: 87.5 — 108 MHz	0.05 MHz*
AM: 531 — 1602 kHz	9 kHz

* The frequency display is raised or lowered by steps of 0.1 MHz. (Example: Frequency 88.05 MHz is displayed as 88.00 MHz.)

IF FM: 10.7 MHz
AM: 450 kHz

Speaker
φ 4.4 cm (1 3/4 inches), 7.2 ohms

Output
Stereo earphones jack
(stereo φ 3.5mm, load impedance 16 ohms)

Power output
80 mW (at 10% harmonic distortion)

Power requirements
3 V DC, two R6 (size AA) batteries

Battery life (using Sony batteries SUM-3 (NS))
Earphones:
FM: Approx. 35 hours
AM: Approx. 45 hours
Speaker:
FM: Approx. 22 hours
AM: Approx. 26 hours

Dimensions
Approx. 121 × 72 × 27 mm (w/h/d)
(4 7/8 × 2 7/8 × 1 1/8 inches) incl. projecting parts and controls

Mass
Approx. 198 g (7.0 oz.) incl. batteries

Supplied accessory
Stereo earphones (1)

Design and specifications are subject to change without notice.

FM STEREO/AM PLL SYNTHESIZED RECEIVER

SONY®

使用時は添付資料も参照のこと
Refer to the additional documents.

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Flexible Circuit Board Repairing

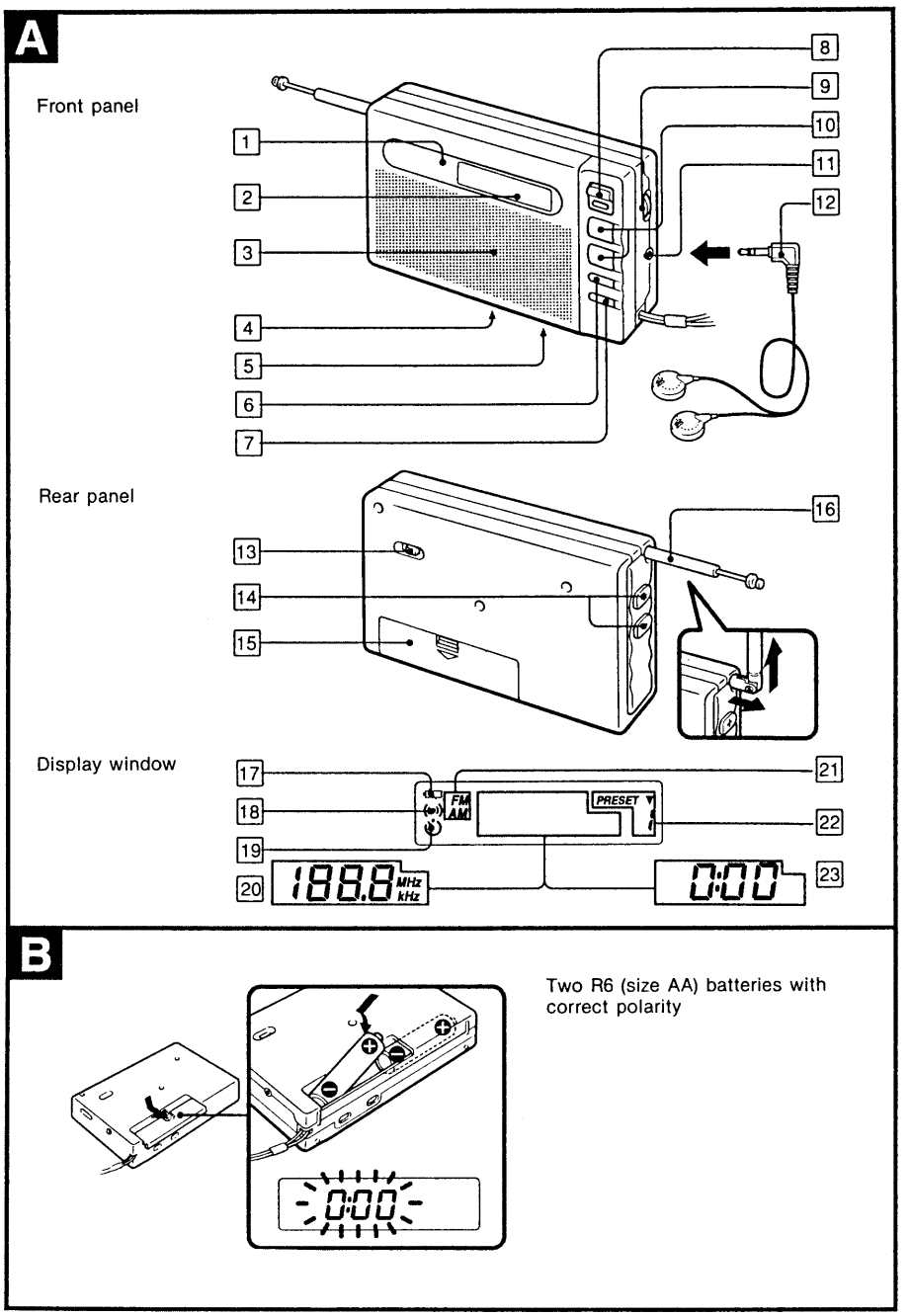
- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SECTION 1
GENERAL

This section is extracted from instruction manual.



Location of Controls A

1. STEREO indicator
   Lights when a stereo program is received.
2. Display window
3. Speaker
4. ENTER/CLOCK button
5. TIMER button
6. BAND selector
7. ALARM button
8. AUTO OFF/POWER switch
9. VOLUME control
10. PRESET + and – buttons
11. PHONES (stereo earphones) jack
12. Earphones
    Extend the earphone cord as it serves as the FM antenna.
    By disconnecting the earphone cord, the sound is heard from the speaker. The sound coming through the speaker is monaural.
13. STEREO/MONO (stereo/monaural) selector
14. TUNE (tuning)/TIME SET + and – buttons
15. Battery compartment
16. Telescopic antenna
    Extend the telescopic antenna as illustrated.
17. Battery indicator
    Flashes when the batteries become weak.
18. Alarm indicator
    Appears when you set the alarm.
19. Timer indicator
    Appears when you set the timer.
20. Frequency indicator
    Appears while the radio is on.
21. Band indicator
22. PRESET and preset number indicators
23. Time indicator
    Appears when the radio is off.

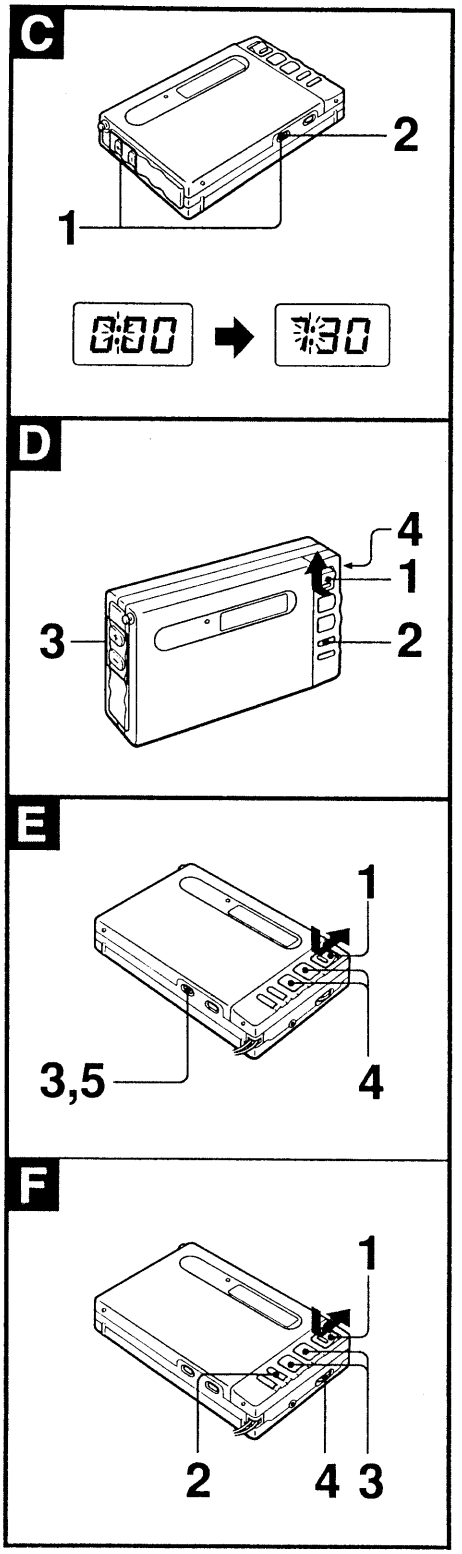
Installing Batteries B

Insert two R6 (size AA) batteries with correct polarity. When you insert the batteries for the first time, 0:00 flashes in the display window. To stop flashing, press ENTER/CLOCK.

Knowing when to replace the batteries
When the batteries become weak, the radio is turned off, the time indicator appears and "⌓" flashes in the display window. (The sound may become weak or distorted before "⌓" starts flashing.) Replace both batteries with new ones. Even after you replace the batteries, "⌓" remains flashing. To turn off "⌓", slide AUTO OFF/POWER.

Replace the batteries within about 60 seconds after turning off the power.
If more than 60 seconds has passed, the preset stations are canceled and the time indicator shows 0:00.
In this case, perform the clock setting and preset tuning again.

Notes on the battery
- Insert the batteries with correct polarity.
- Do not mix new and used batteries.
- The batteries cannot be charged.
- To avoid damage from possible battery leakage, remove the batteries when the unit will not be used for a long time.
- Concerning the battery life, see "Specifications".



Setting the Clock C

When you set the clock, turn off the radio.

1 While keeping ENTER/CLOCK pressed, press TUNE/TIME SET + or − button until the display shows the current time.
Press + to increase or − to decrease the digits. When you keep the button pressed, the digits change rapidly.
While setting the time, ":" is flashing.

0:00	= midnight
12:00	= noon

2 When the display shows the current time, release ENTER/CLOCK.
":" stops flashing and the clock starts operating.

To set the clock to the second
After adjusting the time, keep ENTER/CLOCK pressed. Release ENTER/CLOCK using the time signal as a reference.

Operating the Radio D

1 While pressing the green button, slide AUTO OFF/POWER to the direction of the △ mark to turn on the power.
2 Select FM or AM with BAND.
3 Tune in the desired station by pressing TUNE/TIME SET + or − button.
At each press of + or −, the FM frequency changes by 0.05 MHz higher or lower (the display changes by 0.1 MHz) and the AM frequency changes by 9 kHz higher or lower. To change the frequency rapidly, keep the button pressed.
4 Adjust VOLUME.

To turn off the radio
Slide AUTO OFF/POWER again.
The display shows the current time.

When the power is turned off automatically
The radio will be turned off automatically after about 90 minutes to prevent unnecessary wear of the batteries. To continue listening to the radio, slide AUTO OFF/POWER again. If the batteries are exhausted, the power is turned off automatically to protect the preset contents.

To receive a stereo program in stereo
Use the earphones. The sound coming through the speaker is monaural.

Preset Tuning

Once you store the desired stations, you can tune them in by a simple operation. You can store 7 stations for each of the FM and AM bands.

Presetting the Station E

1 Turn on the power.
2 Tune in the desired station to preset.
See "Operating the Radio".
3 Keep ENTER/CLOCK pressed for more than 1 second.
Release ENTER/CLOCK when PRESET and the preset number indicator flash in the display window with the beep sound.
4 Select a preset number from 1 to 7 by pressing the PRESET + or − button.
Press + to increase the digit.
(1→2→. . . . →6→7)
Press − to decrease the digit.
(7→6→. . . . →2→1)
5 Press ENTER/CLOCK again.
Beep-beep sounds, and PRESET and the preset number stop flashing.
The station has been stored.
To preset other stations, repeat steps 2 to 5.

Note
Go to the next step while the PRESET and preset number are flashing (for about 5 seconds). Otherwise the unit returns to step 2. If this happens, try again from step 3.

Tuning in a Preset Station F

1 Turn on the power.
2 Select the band, FM or AM.
3 Select the desired preset number by pressing the PRESET + or − button.
4 Adjust VOLUME.

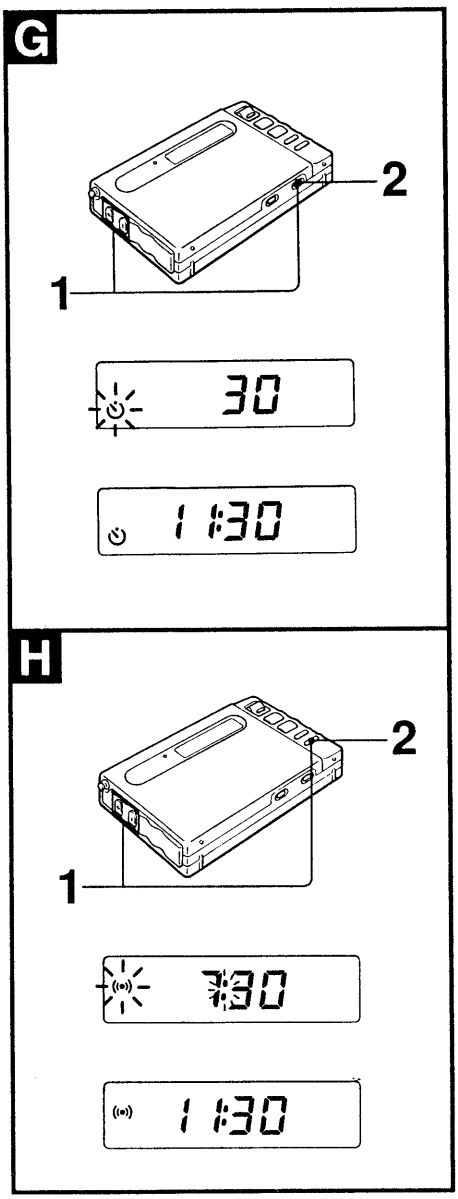
To change the preset station
Tune in the desired station to be newly preset. Preset the tuned station to the desired button. The station previously preset to that button is canceled.

To Improve Radio Reception

FM: Extend the telescopic antenna and adjust the angle of the antenna so that the FM sensitivity will be increased.

AM: A ferrite bar antenna is built in for AM reception. Rotate the unit horizontally for optimum reception.

If the FM stereo program is noisy
Usually set STEREO/MONO to STEREO. You can receive the FM stereo program in stereo, using the earphones. When the signal is weak and noisy, set it to MONO. There will be no stereo effect, but the sound will improve.



Sounding the Beep at a Desired Time

You can make the unit sound its beep through the speaker or the earphones at a desired time. Use this feature to remind you of an appointment, etc.

There are two ways of setting:
- Timer setting—to sound the beep a certain number of minutes later than the present.
- Alarm setting—to sound the beep at a certain time.

You can set the timer and alarm while the radio is either on or off.

Setting the Timer G

1 While keeping TIMER pressed, press TUNE/TIME SET + or – button to store the desired period in minutes after which you want the beep to sound.
You can store periods from 1 to 180 minutes at one minute intervals.
⏲ flashes in the display window while you press TIMER. To sound the beep after 30 minutes, for example, while keeping TIMER pressed, press TUNE/TIME SET + or – until 30 appears in the display window.

2 Release TIMER.
⏲ stops flashing.
The display returns to the current time or to the frequency which was shown before you pressed TIMER to start the timer setting.
When the stored period has passed, ⏲ flashes and the beep sounds.

To cancel the timer setting
Press TIMER again. ⏲ disappears.

To stop the beep
Press any button.
If you do not stop the beep, the beep stops automatically after about 3 minutes.
When the beep sounds while you are listening to the radio, the radio reception stops and resumes when the beep stops.

Setting the Alarm H

Make sure that the clock is correctly set. (See "Setting the Clock".)

1 While keeping ALARM pressed, press TUNE/TIME SET + or – button to set the time you want the beep to sound.
((•)) flashes while you press ALARM.
To set the alarm for 7:00 in the morning, for example, while keeping ALARM pressed, press TUNE/TIME + or – until 7:00 appears in the display window.

2 Release ALARM.
((•)) stops flashing. The display returns to the current time or the frequency which was shown before you pressed ALARM to start the alarm setting.
When the time comes, ((•)) flashes and the beep sounds.

To cancel the alarm setting
Press ALARM again. ((•)) disappears.

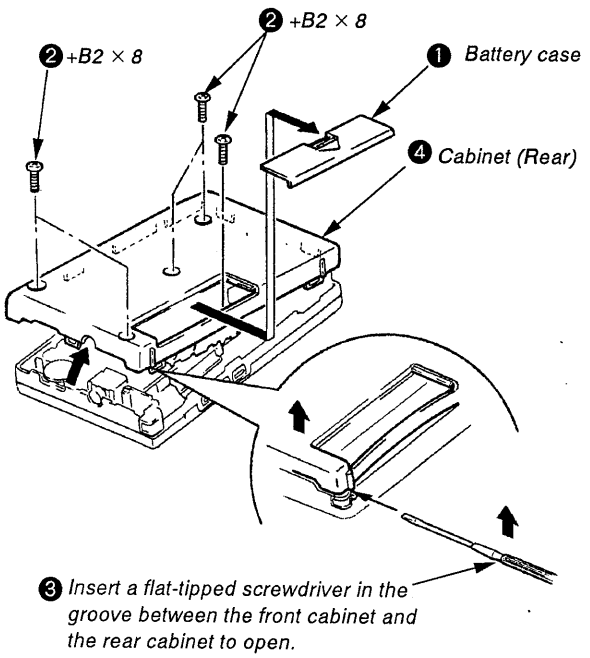
To stop the beep
Press any button.
If you do not stop the beep, the beep stops automatically after about 3 minutes.
When the beep sounds while you are listening to the radio, the radio reception stops and resumes when the beep stops.

Notes
- When 0:00 flashes, you cannot set the alarm.
- When you stop the beep, the timer setting is canceled. The alarm setting remains.
- Even if you are listening to radio, you can set the timer and alarm.

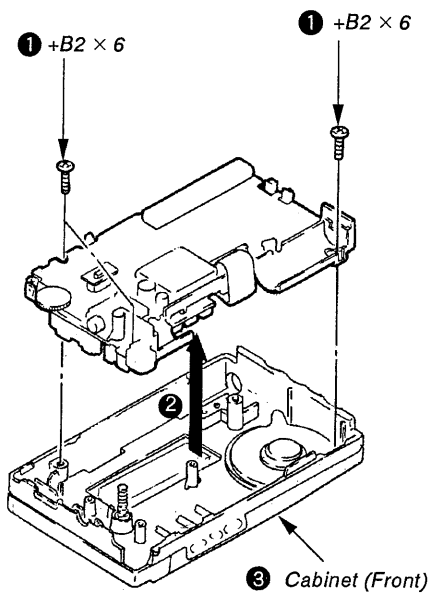
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

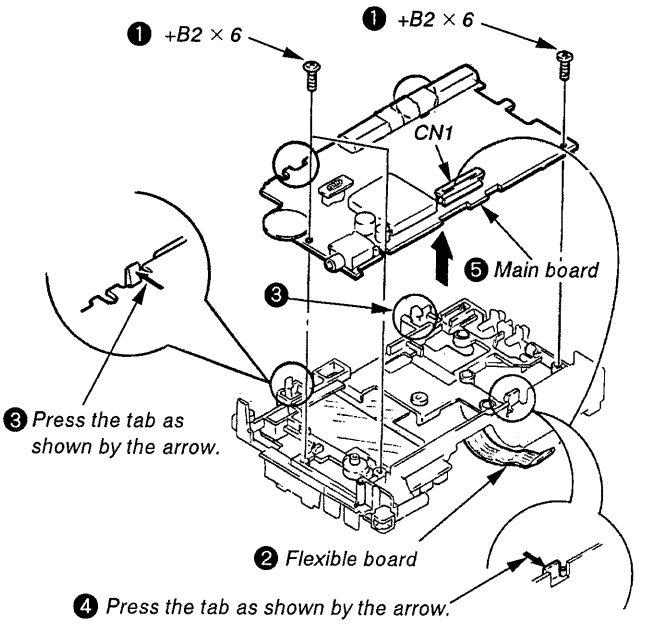
2-1. CABINET (REAR)


❷ +B2 × 8
❷ +B2 × 8
❶ Battery case
❹ Cabinet (Rear)
❸ Insert a flat-tipped screwdriver in the groove between the front cabinet and the rear cabinet to open.

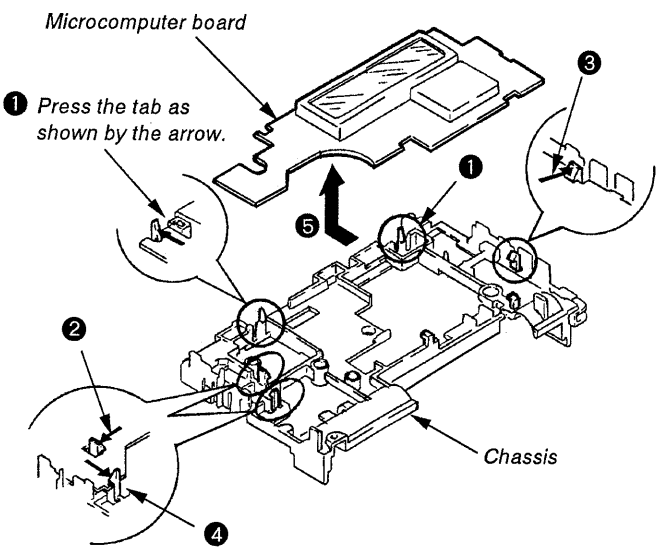
2-2. CABINET (FRONT)



2-3. MAIN BOARD

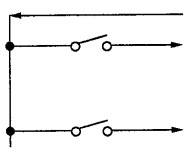


2-4. MICROCOMPUTER BOARD



SECTION 3
PIN DESCRIPTION

Pin description of μ PD1724GB-555-1A7 (IC101)

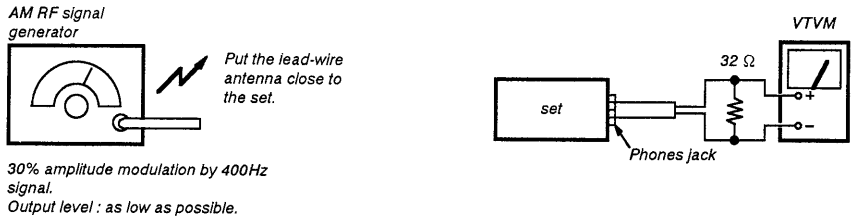
Pin number	Mark	Pin name	I/O	Pin description
1 | 10 51 | 56	LCD10 | LCD1 LCD16 | LCD11	LCD10 | LCD1 LCD16 | LCD11	O	LCD drive segment signal output.
11 21 49 50	NC	NC	–	To GND
12 | 14	COM3 | COM1	COM3 | COM1	O	LCD drive common signal output
15 16 17 18	VSS3 CAP2 CAP1 VSS2	VSS3 CAP2 CAP1 VSS2	–	Terminals used for connecting a capacitor of a doubler circuit which supplies LCD drive voltage.
19	VDP	MUTE	O	Audio mute output signal. Active when Low. Audio noises are reduced before and after the mute signal when PLL, radio power supply or key srtobe change is controlled.
20	CGP	BUZZER	O	Buzzer output using CGP. Sound to check keys, to check settings, to indicate that a setting time of timer is reached or to alarm is produced by using two kinds of musical intervals and the sound modulation.
22	VDD	VDD	–	5V power supply input terminal.
23	VCOH	VHF	I	Not used.
24	VCOM	FM VCO	I	FM VCO input.
25	VCOL	AM VCO	I	AM VCO input.
26	VSS1	VSS1	–	GND
27 28	EO1 EO2	EO1 EO2	O	Not use with this machine. PLL error output terminal.
29	CE	CE	I	Detects the voltage reduction of the AC battery. When the battery energy is reduced, the microcomputer is in the reducedvoltage mode. The battery mark blinks and the microcomputer waits for a clock's reset/display and Power ON Key.
30 31	XO XI	XO XI	O I	A quartz oscillating element connecting terminal. (75kHz)
32	VSS4	VSS4	–	Connected to a capacitor for a regulator circuit which supplies the oscillator' stable drive voltage.
33	PA3	INIT IN1	I	Time display switching input. It is a 24-hour system display when Low and a 12-hour system display (AM/PM) when High. When the setting is changed, backup power supply must be set to OFF and internal RAM must be initialized.
34	PA2	POWER OUT	O	ON/OFF switching output for the radio power supply. (ON : High , OFF : LOW)
35	PAI	INIT OUT	O	Strobe output for initial switch input.  INIT OUT (Active : High) INIT IN 1 : 12-/24-hour system display LOW (OFF) : 24-hour system display, Hgih (ON) : 12-hour system dispaly INIT IN 2 : Band selection Not use with this machine.

Pin number	Mark	Pin name	I/O	Pin description
36	PA0	INIT IN2	I	1-bit input which sets two kinds of receiving band versions. When the setting is changed, backup power supply must be set to OFF and internal RAM must be initialized.
37	PB3		O	Not used.
38	PB2	BAND	O	1-bit output which sets two kinds of receiving bands. Two settings are as followes. AM=H, FM=L, POWER OFF : L
39	PB1	BEEP Vol	O	BEEP volume. Output for increasing the volume of the BEEP sound when a setting time of timer is reached or an alarm is ON. The volume is increased when high.
40	PB0		O	Not used
41	PC3		O	Not used.
42 | 44	PC2 | PC0	Key SOURCE	O	Strobe and return signals in 3 × 4 key matrix. A strobe signal change makes an audio noise. A strobe signal must be set to the fixed value when a key input is not changed. When the key input is decoded, the mute signal must be added.
45 | 48	K3 | K0	Key RETURN	I	

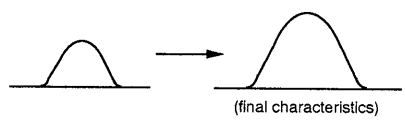
SECTION 4
ELECTRICAL ADJUSTMENTS

AM Section ● Be sure to perform a AM tracking adjustment after having made a AM frequency coverage adjustment.

Setting:
BAND SW : AM
STEREO /MONO SW : MONO

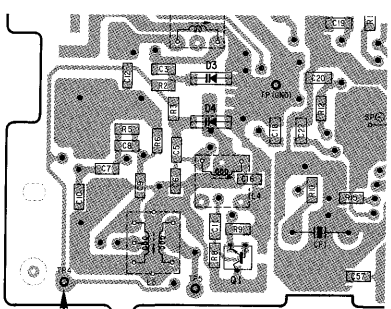


AM IF Adjustment
Procedure :
1. Set the frequency of the set and RF SSG at 531KHz.
2. Adjust T1 so that the reading of VTVM becomes maximum.
3. Refer to the diagram below for the final characteristics.

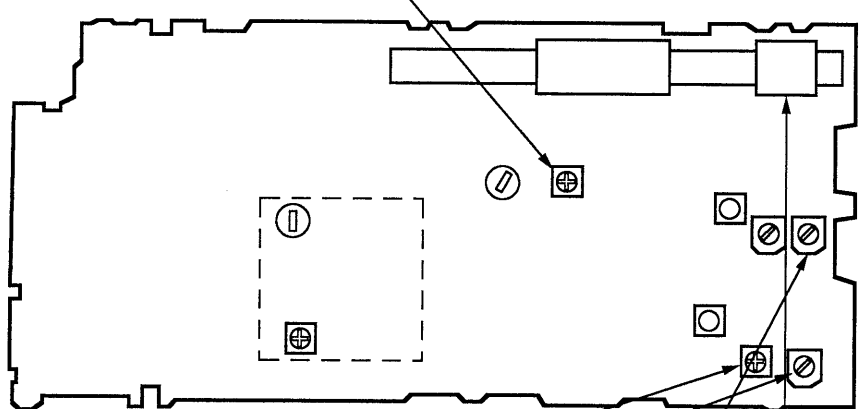


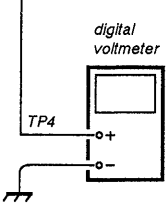
T1

[MAIN BOARD (Conductor side)**]**



[MAIN BOARD (Component side)**]**





L5 CT3 CT1 L1

AM Frequency Coverage Adjustment
Procedure :
1. Set the frequency of the set and RF SSG at 531kHz.
2. Adjust L5 so that the voltage between TP4 and the ground becomes 1 ± 0.05V.
3. Set the frequency of the set and RF SSG at 1,602kHz.
4. Adjust CT3 so that the voltage between TP4 and the ground becomes 7.3 ± 0.05V.
5. Repeat the adjusting steps above two or three times.

AM Tracking Adjustment
Procedure :
1. Set the frequency of the set and RF SSG at 585kHz.
2. Adjust L1 so that the reading of VTVM becomes maximum.
3. Set the frequency of the set and RF SSG at 1,485kHz.
4. Adjust CT1 so that the reading of VTVM becomes maximum.

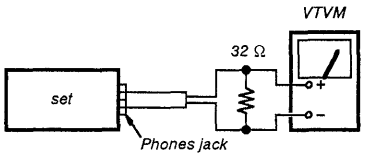
● Terminate the AM tracking adjustment by adjusting the trimmer capacitor.

FM Section ● Be sure to perform a FM tracking adjustment after having made a FM frequency coverage adjustment.

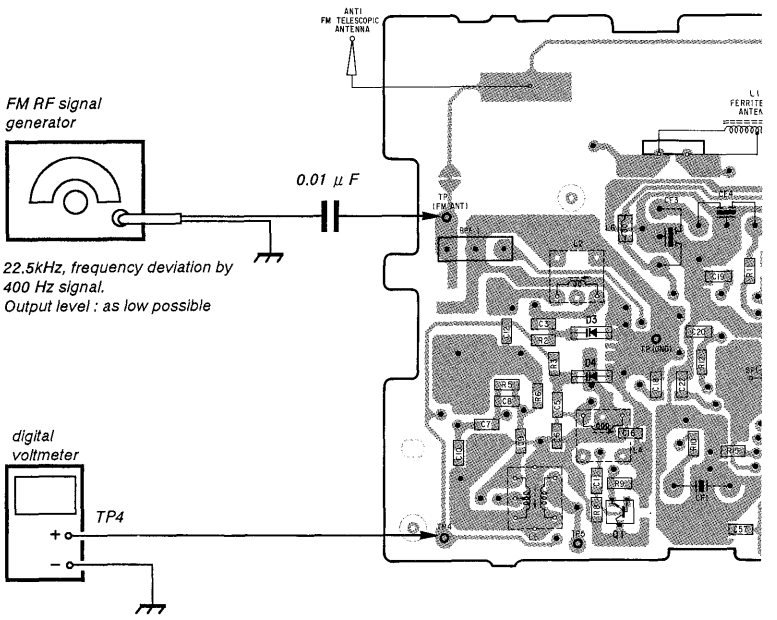
FM Frequency coverage and Taking Adjustment

Setting:

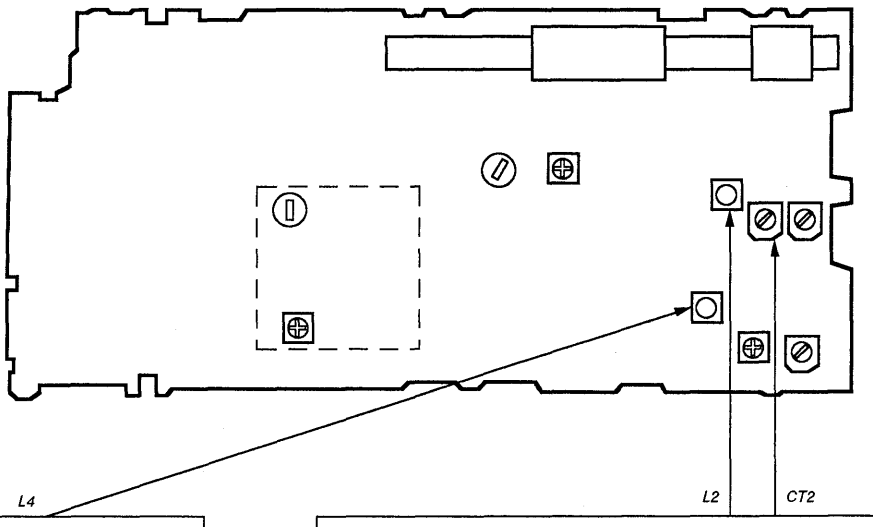
BAND SW : FM
STEREO /MONO SW : MONO



[MAIN BOARD (Conductor side)]



[MAIN BOARD (Component side)]



FM Frequency Coverage Adjustment

Procedure :

1. Set the frequency of the set and RF SSG at 108.0MHz.
2. Adjust L4 so that the voltage between TP4 and the ground becomes 9.5 ± 1.5V.

FM Tracking Adjustment

Procedure :

1. Set the frequency of the set and RF SSG at 87.5MHz.
2. Adjust L2 so that the reading of VTVM becomes maximum.
3. Set the frequency of the set and RF SSG at 108.0MHz.
4. Adjust CT2 so that the reading of VTVM becomes maximum.
5. Repeat the adjusting steps above two or three times.

● Terminate the FM tracking adjustment by adjusting the trimmer capacitor.

FM VCO Section

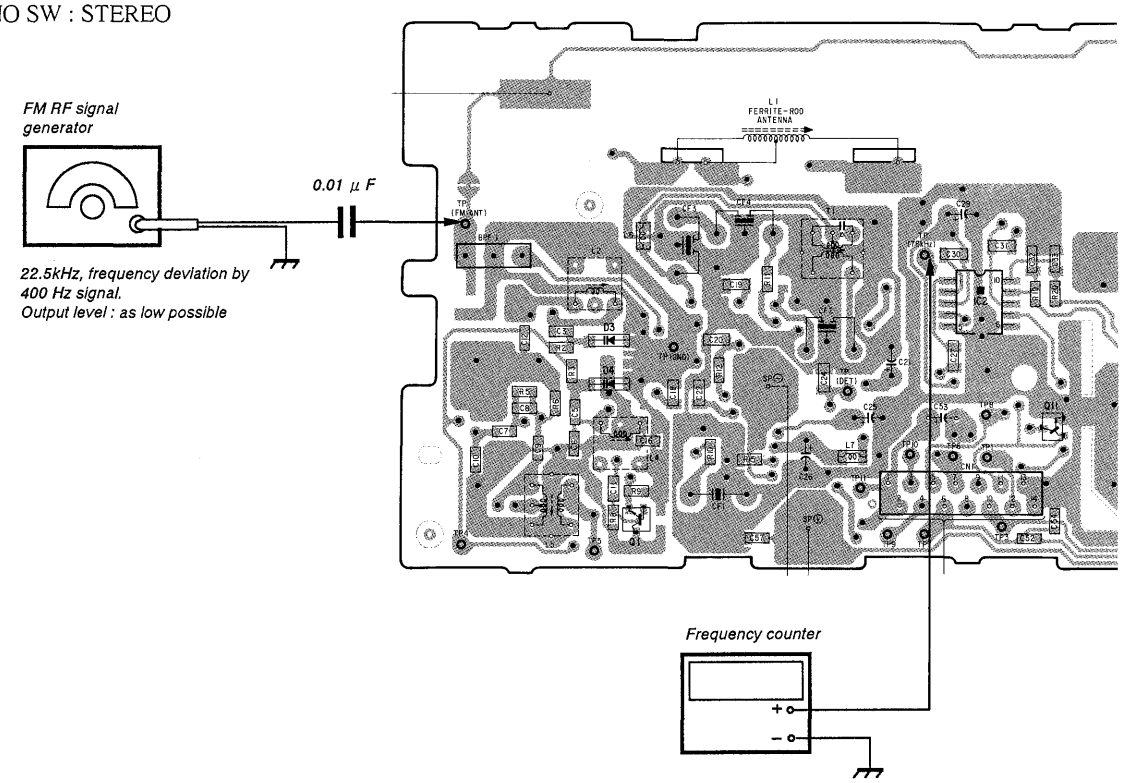
- Be sure to perform a FM VCO adjustment after having made a FM frequency coverage adjustment.

FM VCO Adjustment

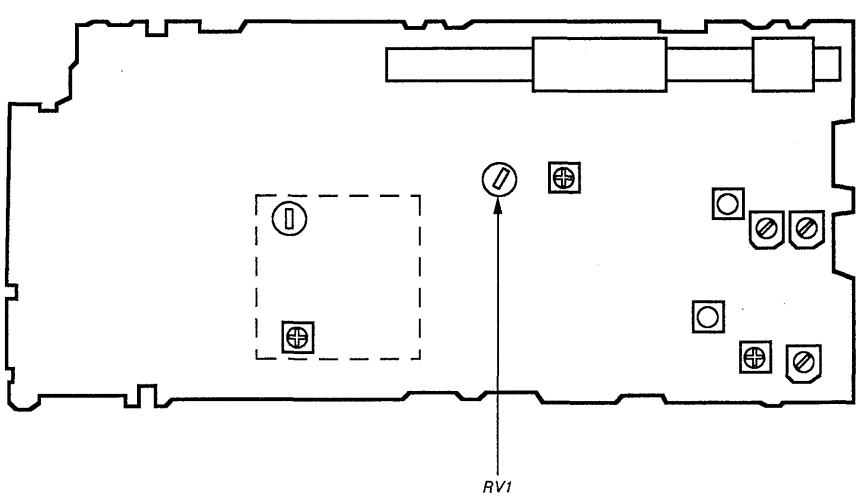
Setting:

BAND SW : FM
STEREO /MONO SW : STEREO

【MAIN BOARD (Conductor side)】


FM RF signal generator
0.01 μ F
22.5kHz, frequency deviation by 400 Hz signal.
Output level : as low possible
Frequency counter

【MAIN BOARD (Component side)】



Procedure :

1. Set the frequency of the set and RF SSG at 108.0MHz.
2. Adjust RV1 for 76kHz ± 200Hz reading on frequency counter.

SECTION 5
DIAGRAMS

• SEMICONDUCTOR LEAD LAYOUTS

S-8052ANB-NE-S

IT33

μ PD1724GB-555-1A7

KV1563M-3

MA152WK

2SA1162-G
2SC1623-L5L6
2SC4177
2SC4178-F14
DTA144EK
DTA144TK
DTC144EK
DTC144TU

RD13M-B2

2SK209-G

1SS226

XN4608

PR243D

DAN202U

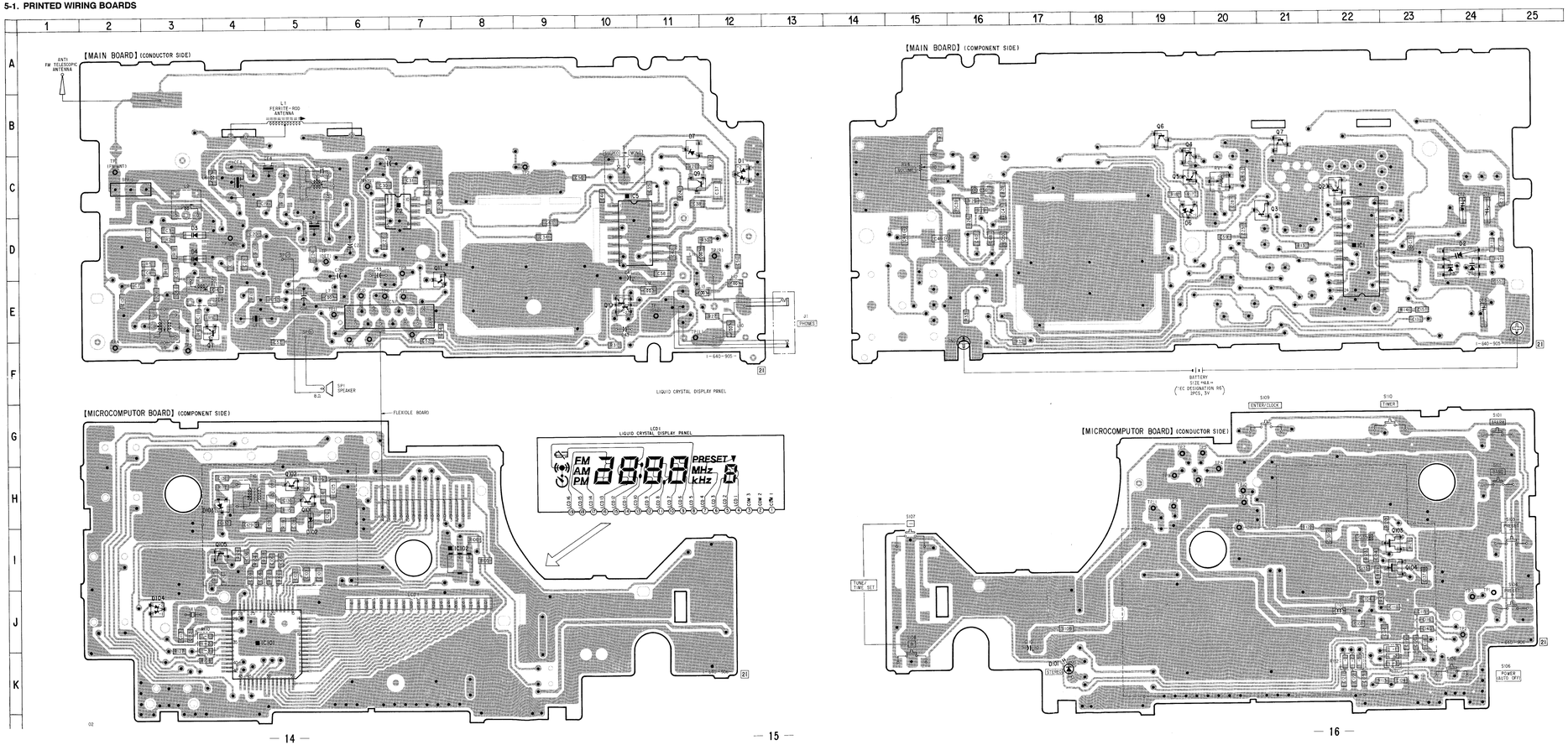
• SEMICONDUCTOR LOCATION

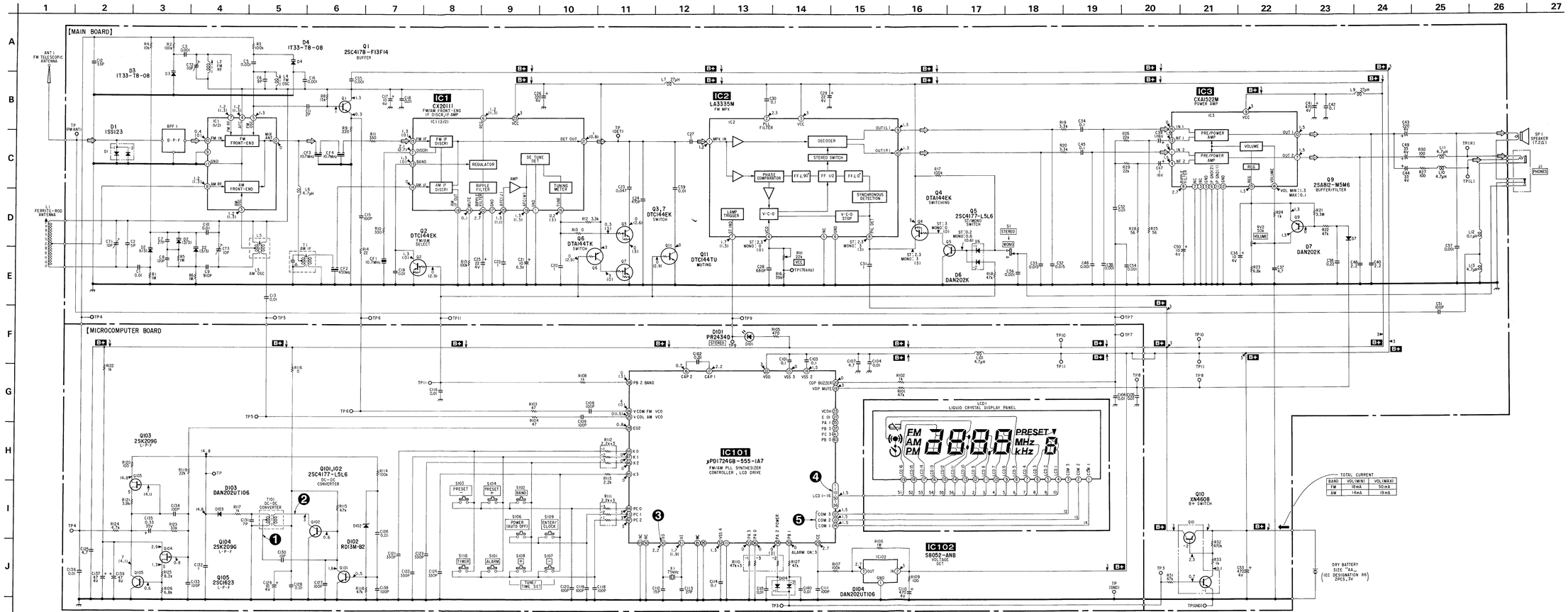
Ref. No.	Location
D1	C-12
D2	D-24
D3	D-3
D4	D-3
D6	D-19
D7	B-11
D101	K-17
D102	H-5
D103	H-4
D104	J-3
IC1	D-22
IC2	C-7
IC5	D-10
IC101	J-4
IC102	I-8
Q1	E-4
Q2	C-22
Q3	C-21
Q4	C-19
Q5	C-19
Q8	B-19
Q7	B-21
Q9	C-11
Q10	E-10
Q11	D-7
Q101	H-5
Q102	H-5
Q103	I-23
Q104	I-23
Q105	I-4

Note:

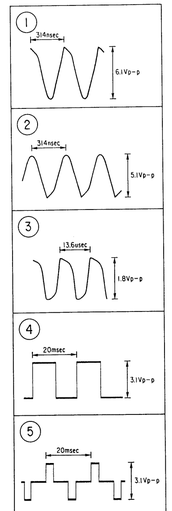
- ○— : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▒▒ : Pattern on the side which is seen.
- ▭ : Chip components extracted from the rear side.

5-1. PRINTED WIRING BOARDS





• WAVEFORMS



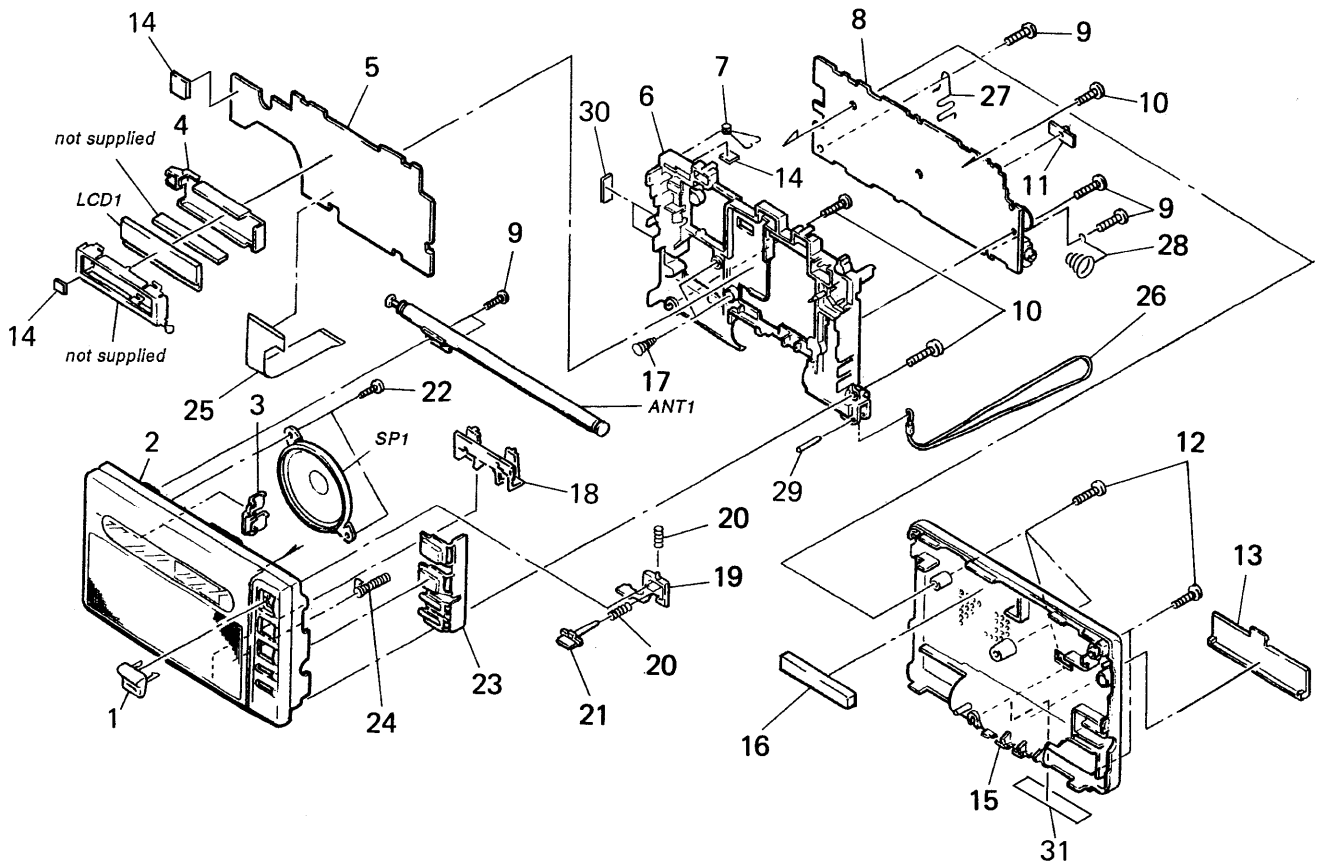
Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- B+ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc3V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM

SECTION 6
EXPLODED VIEW

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color indication of Appearance Parts Example :
  KNOB, BALANCE (WHITE)....(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark)list is given in the last of this parts list.



Ref. No.	Part No.	Description	Remark
1	3-374-059-01	KNOB (POWER)	
2	X-3366-613-1	CABINET (FRONT), ASSY	
3	3-383-163-01	BUTTON (TUNE)	
* 4	3-374-058-01	HOLDER (LCD)	
* 5	A-3679-486-A	MICROCOMPUTER BOARD, COMPLETE	
* 6	3-374-054-01	CHASSIS	
* 7	3-374-073-01	SPRING (ANT), TORSION	
* 8	A-3679-485-A	MAIN BOARD, COMPLETE	
9	3-374-077-01	SCREW (+B) (2X6)	
10	3-374-077-11	SCREW (+B) (2X6)	
11	3-374-063-01	KNOB (MODE)	
12	3-374-078-01	SCREW (+B) (2X8)	
13	3-889-802-61	LID, BATTERY CASE	
* 14	3-685-711-01	SPACER	
15	3-374-053-01	CABINET (REAR)	
16	3-382-612-01	CUSHION (ANT)	
* 17	3-374-070-01	SPRING (SP), COMPRESSION	

Ref. No.	Part No.	Description	Remark
18	3-374-056-01	BUTTON (TIME), GANG	
19	3-374-061-01	SLIDER	
20	3-374-072-01	SPRING (POWER), COMPRESSION	
21	3-374-060-01	STOPPER	
22	3-374-079-01	SCREW (1.7X5), TAPPING	
23	3-374-055-11	BUTTON (MEMORY), GANG	
24	3-374-071-01	SPRING (GROUND), COMPRESSION	
25	1-642-004-11	FLEXIBLE BOARD	
26	3-900-158-01	STRAP, HAND	
27	3-374-075-01	TERMINAL, BATTERY	
28	3-374-074-01	SPRING, BATTERY COIL	
29	3-669-481-04	PIN (DIA. 1X12), PARALLEL	
30	3-831-441-XX	SHEET (1)	
31	3-703-264-11	LABEL (B), SERIAL NO	
ANT1	1-501-527-11	ANTENNA, TELESCOPIC	
LCD1	1-810-034-11	DISPLAY PANEL, LIQUID CRYSTAL	
SP1	1-544-610-11	SPEAKER (4.4CM)	

SECTION 7
ELECTRICAL PARTS LIST

MAIN

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H

When indicating parts by reference number, please include the board.

Ref.No.	Part No.	Description			Remark
*	A-3679-485-A	MAIN BOARD, COMPLETE			
		**********			
		< FILTER >			
BPF1	1-236-921-21	FILTER, BAND PASS			
		< CAPACITOR >			
C1	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C2	1-162-936-11	CERAMIC CHIP	5PF	0.25PF	50V
C3	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C5	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C6	1-162-940-11	CERAMIC CHIP	9PF	0.5PF	50V
C7	1-162-946-11	CERAMIC CHIP	27PF	5%	50V
C8	1-162-954-11	CERAMIC CHIP	120PF	5%	50V
C9	1-164-474-11	CERAMIC CHIP	910PF	5%	50V
C10	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C11	1-162-932-11	CERAMIC CHIP	2PF	0.25PF	50V
C12	1-162-947-11	CERAMIC CHIP	33PF	5%	50V
C13	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C15	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C16	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C17	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C18	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C19	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C20	1-164-346-11	CERAMIC CHIP	1uF		16V
C21	1-126-157-11	ELECT	10uF	20%	16V
C22	1-164-346-11	CERAMIC CHIP	1uF		16V
C23	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C24	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C25	1-124-430-00	ELECT	22uF	20%	4V
C26	1-124-434-00	ELECT	220uF	20%	4V
C27	1-164-346-11	CERAMIC CHIP	1uF		16V

Ref.No.	Part No.	Description			Remark
C28	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C29	1-124-430-00	ELECT	22uF	20%	4V
C30	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C31	1-164-346-11	CERAMIC CHIP	1uF		16V
C32	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C33	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C34	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C35	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C36	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C37	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C38	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C39	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C40	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C41	1-126-518-11	ELECT	470uF	20%	4V
C42	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C43	1-124-434-00	ELECT	220uF	20%	4V
C44	1-135-162-21	TANTALUM CHIP	33uF	20%	6.3V
C45	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C46	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C47	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C48	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C49	1-135-162-21	TANTALUM CHIP	33uF	20%	6.3V
C50	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C51	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C52	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C53	1-126-518-11	ELECT	470uF	20%	4V
C54	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C55	1-162-971-11	CERAMIC CHIP	0.001uF		50V
C56	1-162-971-11	CERAMIC CHIP	0.001uF		50V
C57	1-162-971-11	CERAMIC CHIP	0.001uF		50V
C59	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

MAIN

Ref. No.	Part No.	Description	Remark
		< FILTER >	
CF1	1-577-658-81	FILTER, CERAMIC	
CF2	1-579-536-11	FILTER, CERAMIC	
CF3	1-577-658-81	FILTER, CERAMIC	
CF4	1-577-658-81	FILTER, CERAMIC	
		< CONNECTOR >	
* CN1	1-691-503-11	CONNECTOR, FPC 14P	
		< TRIMMER >	
CT1	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE)	
CT2	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE)	
CT3	1-141-327-11	CAP, VAR, TRIMMER (CHIP TYPE)	
		< DIODE >	
D1	8-719-800-76	DIODE 1SS226	
D2	8-719-023-99	DIODE KV1563M-3	
D3	8-713-300-57	DIODE 1T33	
D4	8-713-300-57	DIODE 1T33	
D6	8-719-400-18	DIODE MA152WK	
D7	8-719-400-18	DIODE MA152WK	
		< IC >	
IC1	8-752-050-00	IC CX20111	
IC2	8-759-804-98	IC LA3335M	
IC3	8-752-057-63	IC CXA1522M	
		< JACK >	
J1	1-507-893-21	JACK, MICROPHONE (PHONES)	
		< COIL >	
L1	1-402-619-11	ANTENNA, FERRITA-ROD (AM)	
L2	1-460-161-11	COIL (WITH CORE)	
L4	1-428-209-11	COIL, AIR-CORE	
L5	1-406-487-11	COIL (OSC)	
L6	1-412-002-31	INDUCTOR CHIP 4.7uH	
L7	1-412-011-31	INDUCTOR CHIP 27uH	
L9	1-412-011-31	INDUCTOR CHIP 27uH	
L10	1-412-002-31	INDUCTOR CHIP 4.7uH	
L11	1-412-002-31	INDUCTOR CHIP 4.7uH	
L12	1-410-981-31	INDUCTOR CHIP 0.1uH	
L13	1-412-002-31	INDUCTOR CHIP 4.7uH	
		< TRANSISTOR >	
Q1	8-729-117-73	TRANSISTOR 2SC4178-F14	
Q2	8-729-901-01	TRANSISTOR DTC144EK	
Q3	8-729-901-01	TRANSISTOR DTC144EK	
Q4	8-729-901-06	TRANSISTOR DTA144EK	
Q5	8-729-117-32	TRANSISTOR 2SC4177	
Q6	8-729-903-29	TRANSISTOR DTA144TK	
Q7	8-729-901-01	TRANSISTOR DTC144EK	
Q9	8-729-216-22	TRANSISTOR 2SA1162-G	
Q10	8-729-402-16	TRANSISTOR XN4608	
Q11	8-729-921-08	TRANSISTOR DTC144TU	
		< RESISTOR >	
R1	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R2	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R3	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R4	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R5	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R6	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R8	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R9	1-216-813-11	METAL CHIP 220 5% 1/16W	
R10	1-216-815-11	METAL CHIP 330 5% 1/16W	
R11	1-216-815-11	METAL CHIP 330 5% 1/16W	
R12	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R13	1-216-864-11	METAL CHIP 0 5% 1/16W	
R14	1-216-801-11	METAL CHIP 22 5% 1/16W	
R15	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R16	1-216-840-11	METAL CHIP 39K 5% 1/16W	
R17	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R18	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R19	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R20	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R21	1-216-863-11	METAL GLAZE 3.3M 5% 1/16W	
R22	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R23	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R24	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R25	1-216-806-11	METAL GLAZE 56 5% 1/16W	
R26	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R27	1-216-809-11	METAL CHIP 100 5% 1/16W	
R28	1-216-806-11	METAL GLAZE 56 5% 1/16W	
R29	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R30	1-216-809-11	METAL CHIP 100 5% 1/16W	
R31	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R32	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R33	1-216-821-11	METAL CHIP 1K 5% 1/16W	
		< VARIABLE RESISTOR >	
RV1	1-241-180-11	RES, ADJ, CERMET 22K (VCO)	
RV2	1-241-754-11	RES, VAR, CARBON 50K (VOLUME)	
		< SWITCH >	
S1	1-553-977-00	SWITCH, SLIDE (STEREO/MONO)	

MAIN MICROCOMPUTER

Ref. No.	Part No.	Description			Remark
		< TRANSFORMER >			
T1	1-404-444-31	TRANSFORMER, IF			
**********					
*	A-3679-486-A	MICROCOMPUTER BOARD, COMPLETE			
		**********			
	1-642-004-11	FLEXIBLE BOARD			
	1-692-016-11	SWITCH, KEY BOARD			
*	3-374-058-01	HOLDER (LCD)			
*	3-685-711-01	SPACER			
		< CAPACITOR >			
C101	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C102	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C103	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C104	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C105	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C106	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C107	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C108	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C109	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C110	1-126-518-11	ELECT	470uF	20%	4V
C111	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C112	1-162-943-11	CERAMIC CHIP	15PF	5%	50V
C113	1-162-946-11	CERAMIC CHIP	27PF	5%	50V
C114	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C115	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C116	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C118	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C119	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C120	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C121	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C122	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C123	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C124	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C125	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C126	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C127	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C128	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C129	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C130	1-162-941-11	CERAMIC CHIP	10PF	0.5PF	50V
C131	1-162-938-11	CERAMIC CHIP	7PF	0.5PF	50V
C132	1-164-346-11	CERAMIC CHIP	1uF		16V
C133	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C134	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C135	1-135-073-00	TANTALUM CHIP	0.33uF	10%	35V
C136	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C137	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C138	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C139	1-135-166-21	TANTALUM CHIP	47uF	10%	10V
C140	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
		< DIODE >			
D101	8-719-924-34	LED	PR2434D (STEREO)		
D102	8-719-106-80	DIODE	RD13M-B2		
D103	8-719-941-86	DIODE	DAN202U		
D104	8-719-941-86	DIODE	DAN202U		
		< IC >			
IC101	8-759-154-31	IC	uPD1724GB-555-1A7		
IC102	8-759-945-21	IC	S-8052ANB-NE-S		
		< COIL >			
L101	1-412-002-31	INDUCTOR CHIP	4.7uH		
		< LIQUID CRYSTAL DISPLAY >			
LCD1	1-810-034-11	DISPLAY PANEL, LIQUID CRYSTAL			
		< TRANSISTOR >			
Q101	8-729-117-32	TRANSISTOR	2SC4177		
Q102	8-729-117-32	TRANSISTOR	2SC4177		
Q103	8-729-220-93	TRANSISTOR	2SK209-G		
Q104	8-729-220-93	TRANSISTOR	2SK209-G		
Q105	8-729-120-28	TRANSISTOR	2SC1623-L5L6		
		< RESISTOR >			
R101	1-216-841-11	METAL CHIP	47K	5%	1/16W
R102	1-216-821-11	METAL CHIP	1K	5%	1/16W
R103	1-216-805-11	METAL CHIP	47	5%	1/16W
R104	1-216-805-11	METAL CHIP	47	5%	1/16W
R105	1-216-817-11	METAL CHIP	470	5%	1/16W
R106	1-216-857-11	METAL CHIP	1M	5%	1/16W
R107	1-216-845-11	METAL CHIP	100K	5%	1/16W
R108	1-216-821-11	METAL CHIP	1K	5%	1/16W
R109	1-216-809-11	METAL CHIP	100	5%	1/16W
R110	1-236-501-21	RES, NETWORK	47K		
R111	1-236-631-11	RES, NETWORK	2.2K		
R112	1-236-631-11	RES, NETWORK	2.2		
R113	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R114	1-216-845-11	METAL CHIP	100K	5%	1/16W
R115	1-216-841-11	METAL CHIP	47K	5%	1/16W
R116	1-216-864-11	METAL CHIP	0	5%	1/16W
R117	1-216-821-11	METAL CHIP	1K	5%	1/16W
R118	1-216-841-11	METAL CHIP	47K	5%	1/16W
R119	1-216-837-11	METAL CHIP	22K	5%	1/16W
R120	1-216-809-11	METAL CHIP	100	5%	1/16W

Ref. No.	Part No.	Description			Remark
R121	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R122	1-216-821-11	METAL CHIP	1K	5%	1/16W
R123	1-216-839-11	METAL CHIP	33K	5%	1/16W
R124	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R125	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R126	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R127	1-216-841-11	METAL CHIP	47K	5%	1/16W
		< SWITCH >			
S101	1-692-016-11	SWITCH, KEY BOARD (ARARM)			
S102	1-692-016-11	SWITCH, KEY BOARD (BAND)			
S103	1-692-016-11	SWITCH, KEY BOARD (PRESET-)			
S104	1-692-016-11	SWITCH, KEY BOARD (PRESET+)			
S106	1-572-499-11	SWITCH, TACTIL (POWER)			
S107	1-572-595-11	SWITCH, TACTIL (REFLOW TYPE) (TUNE/TIME SET-)			
S108	1-572-595-11	SWITCH, TACTIL (REFLOW TYPE) (TUNE/TIME SET+)			
S109	1-572-499-11	SWITCH, TACTIL (ENTER/CLOCK)			
S110	1-572-499-11	SWITCH, TACTIL (TIMER)			
		< TRANSFORMER >			
T101	1-449-021-21	COIL, DC/DC CONVERTER			
		< CRYSTAL >			
X1	1-567-769-11	VIBRATOR, CRYSTAL (75kHz)			

****

MISCELLANEOUS

****

ANT1	1-501-527-11	ANTENNA, TELESCOPIC	
SP1	1-544-610-11	SPEAKER (4.4CM)	

****

ACCESSORIES & PACKING MATERIALS

****

*	3-377-233-01	FRAME, INNER	
*	3-387-855-01	INDIVIDUAL CARTON	
	3-754-344-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, ITALIAN)	
	3-754-344-41	MANUAL, INSTRUCTION (SPANISH, DUTCH, SWEDISH, PORTUGUESE) (AEP)	
	8-953-314-90	HEADPHONE MDR-E757 SET	

9-956-985-11

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SRF-M100

SONY

AEP Model

SERVICE MANUAL

SUPPLEMENT - 1

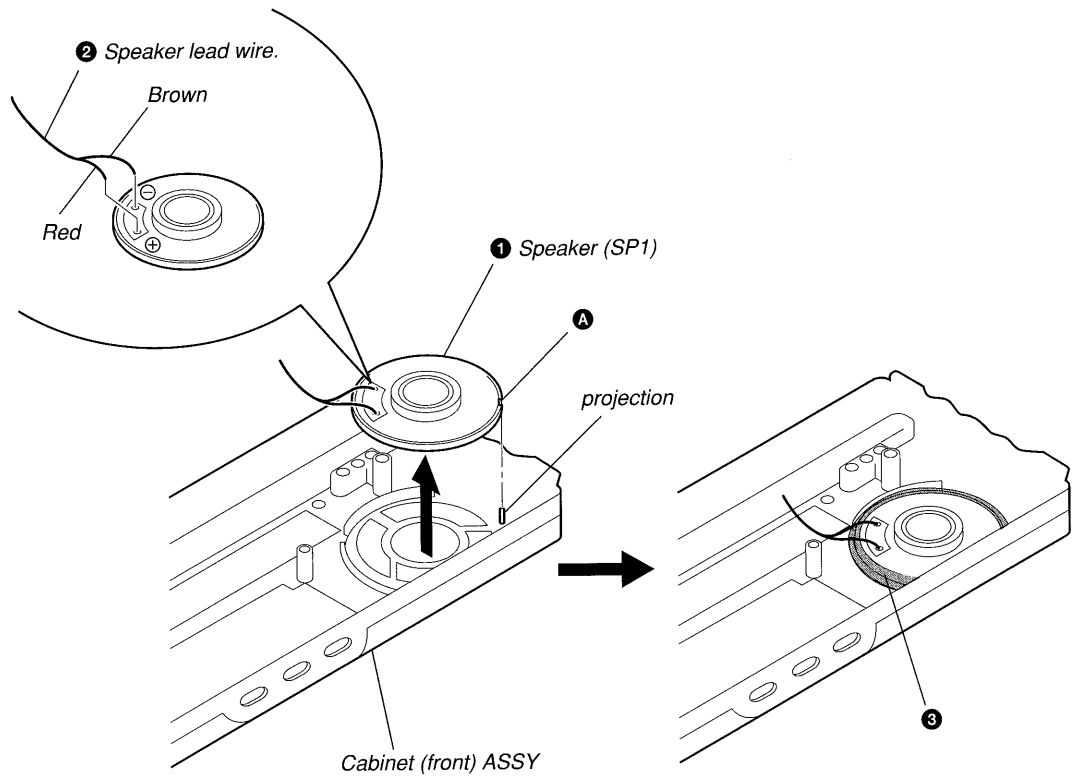
File this Supplement with the Service Manual.

Subject : CHANGE OF SPEAKER

(SPM-99030)

SPEAKER INSTALLATION

❶ Fit the void of speaker Ⓐ to projection of cabinet (front) ASSY and then install it.
❷ Solder the speaker lead wire.
❸ Put the bond (Sony Bond SC608LV 7-432-912-52) on a rotation of speaker (frame side).



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